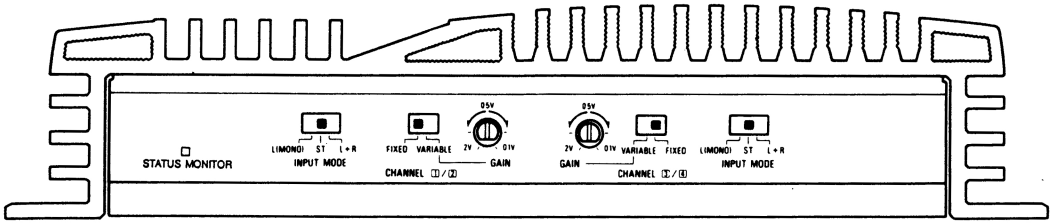
ALPINE SERVICE MANUAL

4 / 3 / 2 Channel Power Amplifier



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Specifications

<4ohms 4-channel stereo mode>

Power Output (20Hz - 20kHz, 0.08%T.H.D)	20W / ch
S / N Ratio (Ref. 25W / 4 ohm)	100dB
Input Sensitivity (25W Power Output)	Fixed : 0.5V ± 2dB (RCA Input)
	2V ± 2dB (SP Input)
	Variable : 2V ± 2dB (RCA Input)
	8V ± 2dB (SP Input)
Input Impedance	RCA Input : 10kohm ± 2kohm
	SP Input : 15kohm ± 2ohm
Frequency Response (at 1kHz)	20Hz - 40kHz
Zero Signal Current Drain	1.5A
Current Drain (10%T.H.D)	23A
Channel Separation (at 1kHz)	55dB

<2ohms 4-channel stereo mode>

Power Output (0.8%T.H.D)	20Hz : 25W / ch, 1kHz : 30W / ch, 20kHz : 30W / ch
Current Drain (10%T.H.D)	30A

<4ohms BTL mono mode>

Power Output (20Hz - 20kHz, 0.8%T.H.D)	60W / ch

<General>

Fuse Requirement	25A (Battery)
Power Source	14.4V DC
Semiconductors	11 IC's, 44 Transistors, 23 Diodes, 6 Zener Diodes
Dimensions (W × H × D)	240 × 51 × 250mm
Weight	2.74kg

NOTE : Due to continuing product improvement, specifications and design are Subject to change without notice.

Features

- **4/3/2-Channel Operation:**
  The 3550 can be used in 3 ways as:

a. 4-channel full-range amplifier, producing 25W per channel into 4 ohms, or 35W per channel into 2 ohms. The amplifier can be used in a 4-speaker full range system or in a bi-amped, dual subwoofer and dual satellite combination.

b. 3-channel amplifier, producing 25W (4 ohms) or 35W (2 ohms) into channels 1 & 2, and 70W (4 ohms) into the third channel. This combination is perfect for a single subwoofer, dual midrange satellite (right and left) system.

c. 2-channel amplifier, producing 70W per channel into 4 ohms. The amplifier can be used as full range, low-pass (sub-woofer amp), or high-pass (midrange/tweeter satellite amp).

- **Status Monitor:**
  This indicator illuminates in green when the 3550 is on and operational. This light will turn red if any protection circuitry is activated.

- **Duo-β Feedback Circuitry:**
  Duo-Beta is a patented and technologically advanced form of feedback (error correction)circuitry. All amplifiers require some form of negative feedback is used to minimize distortion and stabilize the amplifier. Too much feedback, however, increases the transient intermodulation distortion (T.I.M.), decreases the amplifier slew factor, and reduces its musicality. The Duo-Beta circuitry supplies low negative feedback throughout the audio frequency and very high negative feed-back at DC. This stabilizes the amplifier, removes DC offset, and offers excellent total harmonic distortion (T.H.D.) characteristics. It also provides low T.I.M., with excellent slew factor, stability, and musicality.

- **No Current Limiting:**
  Current limiting circuitries used in conventional amplifiers may cause premature clipping and inferior transient response. Absence of current limiters in the audio section ensures low T.I.M., excellent transient response, and superb sonic quality.

- **S.T.A.R. Circuitry:**
  Alpine proprietary Signal Transit for Accurate Response circuit topology improves sonic properties by reducing interaction between different sections of the circuitry.

- **Speaker Level Input Capabillity:**
  This power amplifier features balanced, low impedance speaker inputs. This input can be connected to high or standard power head units such as Alpine, other aftermarket brands, to factory-installed OEM units that do not have a preamp output. The head unit's internal fader and balance controls will continue to function properly as this speaker input circuitry emulates a speaker instead of an open load.

- **Input Mode Selector:**
  This switch allows the user to specify the input signal entering the amplifier:

a. **Stereo Mode:**

Allows the right and left channel signals to reach their designated amplifier channels. This mode provides a stereo output or a center channel common information output (when used in the bridged configuration).

b. **L (MONO) Mode:**

Disables the right channel input connector and routes the signal through the left channel input to all sections of the amplifier. This mode can be used when a single (mono) signal is amplified (either in stereo or bridged operation).

c. **L+R Mode:**

Sums the right and left channel input signals and routes the result to all sections of the amplifier. It can be used in stereo or bridged operation to provide a summed (mono) output.

- **DC-to-DC Switching Mode Power Supply:**
  Provides excellent power output throughout the audio bandwidth (20 Hz to 20 kHz). Its soft clipping characteristics ensure superb transient response and musicality.

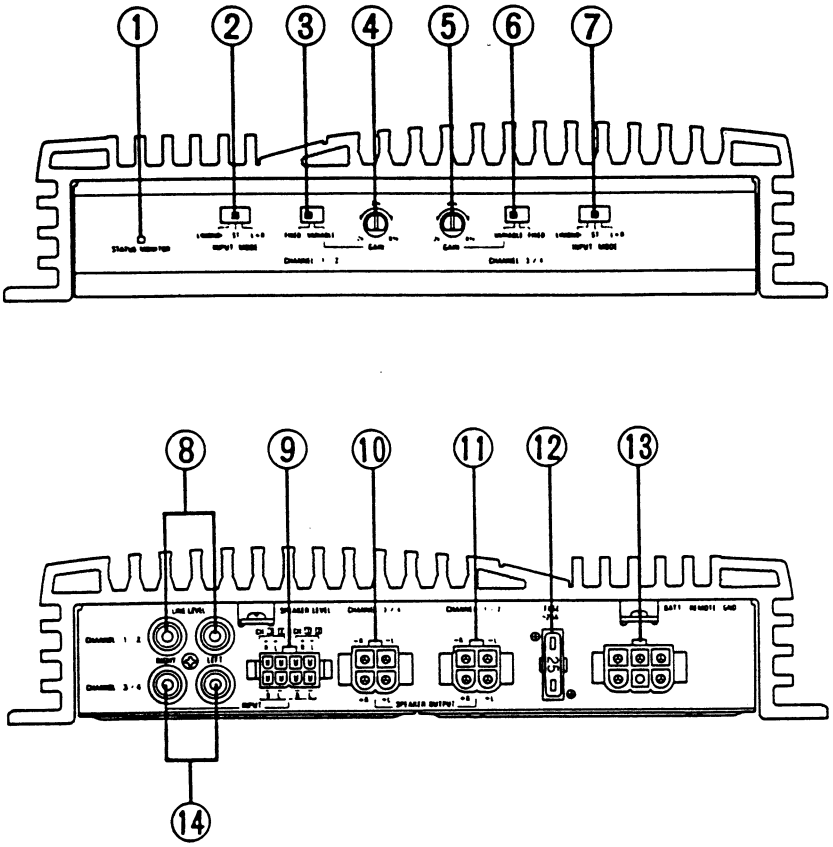
- **Fully Complementary, Discrete Output Circuitry:**
  For excellent reliability, superb sonic performance and high current capability for accurate transient response.

- **Independent Front and Rear, Continuously Adjustable Input Sensitivity Controls.**

- **High Performance, Low Noise, Audiophile Quality Active and Passive Components.**

- **Capacitive/Inductive Power Supply Input and Output Filtering:**
  For low radio frequency interference (RFI) and immunity to system noises (such as alternator whine).

Switches And Terminals

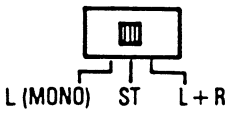


① Status Monitor
② Input Mode Selector Switch (Channels 1/2)
③ Input Gain Selector Switch (Channels 1/2)
④ Input Gain Adjustment Control (Channels 1/2)
⑤ Input Gain Adjustment Control (Channels 3/4)
⑥ Input Gain Selector Switch (Channels 3/4)
⑦ Input Mode Selector Switch (Channels 3/4)
⑧ Input RCA Jacks (Channels 1/2)
⑨ Speaker Input Connector
⑩ Speaker Output Connector (Channels 3/4)
⑪ Speaker Output Connector (Channels 1/2)
⑫ Fuse Block
⑬ Power Connector
⑭ Input RCA Jacks (Channels 3/4)

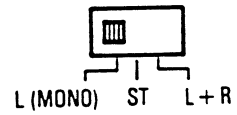
Switch Settings

Input Mode Selector Switches ② and ⑦ :
Each switch should be set according to the way each pair of the amplifier's channels are being used. For each switch:

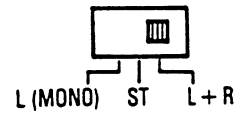
a) Set to the "ST" position (center) when used as a 2-channel stereo system.



b) Set to the "L (MONO)" position when used for one channel of a stereo or bridged system. When set to this position, the signal (left or right channel input) that is fed into the left input connector on the amplifier will go to both output channels controlled by that switch.



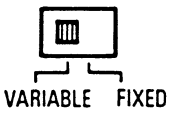
c) Set to the "L+R" position when the amplifier is used for the subwoofer system which uses the right channel and left channel signals summed.



Input Gain Selector Switches ③ and ⑥ :

a) Set to the "FIXED" position when connecting the 3550 to other Alpine products. This position sets the input sensitivity to 500 mV which corresponds to the pre-amp output of Alpine products.

b) Set to the "VARIABLE" position when connecting the 3550 to a non-Alpine product with an output voltage other than 500 mV. This position should also be used when adjustment of input sensitivity is required to obtain certain imaging requirements or to compensate for different speaker efficiencies.

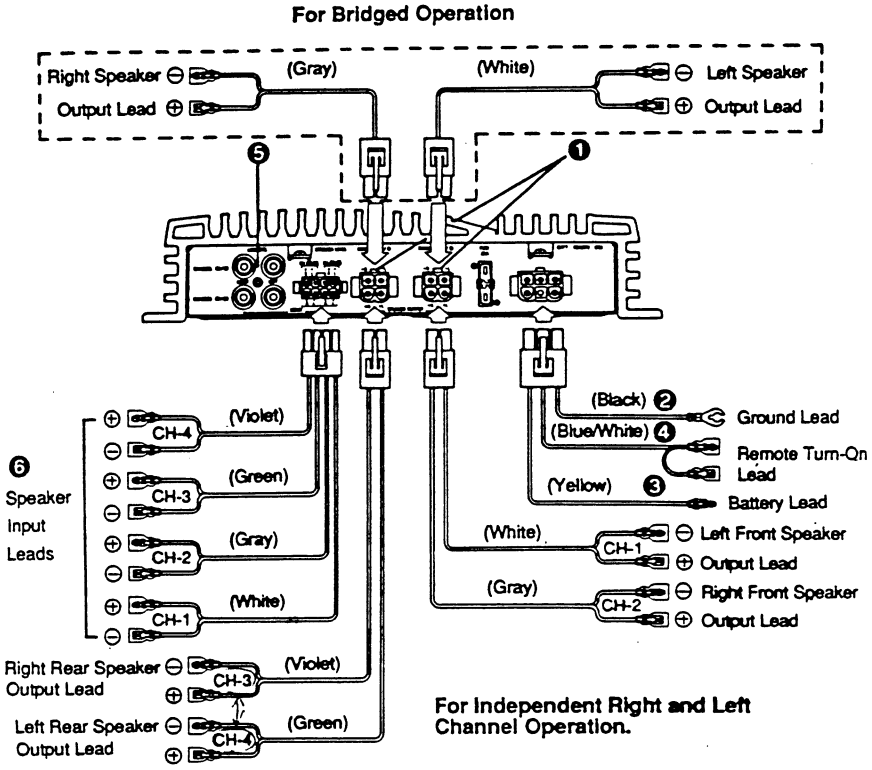


Input Gain Controls ④ and ⑤ :
After setting the Input Gain Select Switches ③ and ⑥ to the "VARIABLE" position, set your head unit's volume control 1/4 of a turn down from the maximum output level, rotate the Input Gain Adjustments Controls ④ and ⑤ with a #0 screwdriver and adjust the input gain to the point where there is maximum volume with no distortion.

Status Monitor ① :
This indicator lights green when the power is on. The 3550 has built-in protection circuitry. If, for some reason, this protection circuit is activated, the indicator turns red. If this happens, turn the system off, find the cause of the problem and remedy the situation. This includes checking all your connections and wiring. If the indicator remains red when the system is turned on, consult your authorized Alpine dealer.

NOTE: The indicator will illuminate in red for a few seconds when the power is turned on as the protection circuit will be activated. This is normal.

Connections



Always disconnect the negative (–) terminal of the vehicle's battery before beginning installation of electronic components.

❶ Speaker Output Connectors

The 3550 has two sets of speaker output connectors. One set for 4-channel operation (using independent left and right speakers on each set) and another set for bridged operation. For 3-channel operation, you would use one of each type.

NOTE: Do not use the speaker (–) terminal commonly for the right and left speaker or connect it to the vehicle's ground.

❷ Ground Lead (Black)

Connect this lead securely to a clean, bare metal spot on the vehicle's chassis. Verify this point to be a true ground by checking for continuity between that point and the negative (-) terminal of the vehicle's battery.

❸ Battery Lead (Yellow)

Connect this lead directly to the positive (+) terminal of the vehicle's battery.

Do not connect this lead to the vehicle's electrical system.

❹ Remote Turn-On Lead (Blue/White)

Connect this lead to the remote turn on lead of your head unit.

❺ Input RCA Jacks

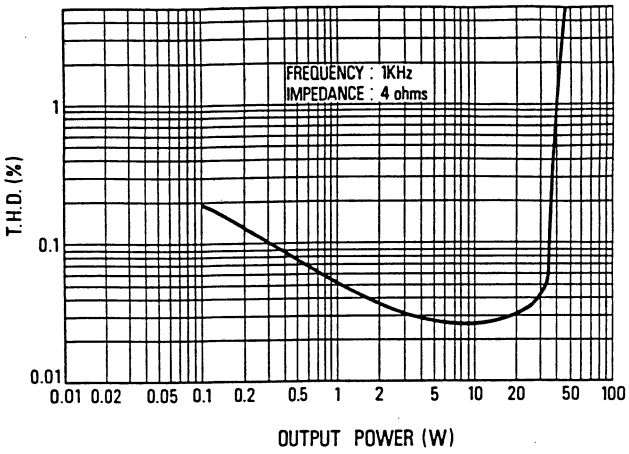
Connect these jacks to the line out leads on your head unit using optional RCA extension patch cords. Be sure to observe correct channel connections; Left to Left, Right to Right, Front to Front, and Rear to Rear.

❻ Speaker Input Leads

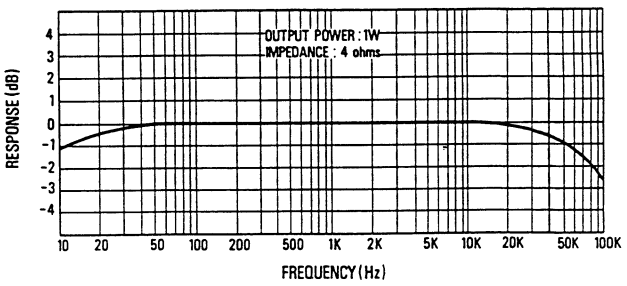
These leads are input leads for use with head units not equipped with preamp outputs. When not using the RCA Line Input connectors, you should connect these wires to the speaker output leads of your head unit. The 3550 accepts input from high power or standard power head units.

Characteristic Curves

POWER VS. DISTORTION CURVE



FREQUENCY RESPONSE CURVE



Precautions

1. Improper wiring connections could cause damage to your vehicle's electrical system and/or the 3550 amplifier. Carefully follow the wiring instructions in this manual.

2. Connecting the battery lead (yellow) to the positive (+) terminal of the battery should be your last connection after all other connections have been made.

3. Due to the high power output of the 3550, it is important that all connections are clean and well secured, to prevent damage to the amplifier and/or vehicle.

4. Be sure that the 3550 is mounted in a way that will allow for free air circulation and heat dissipation.

5. When changing fuses, be sure to replace the old fuse with one of the same amperage. Use of improper fuses can lead to serious damage to components.

Disassembly Instructions

1. Removal of Main P.C.Board

(1) After removal of Bottom Cover, remove 32 screws marked "○" as shown in Figure 1. Then, the Main P.C.Board will be removed from Heat Sink together with Front, Rear Chassis and Power, LED P.C.Board.

(2) Remove a hook(A), pull out LED P.C.Board in the arrow direction as shown in Figure 2. The Front Chassis can be removed.

(3) Remove the solder(a) as shown in Figure 3. The LED P.C.Board can be removed.

(4) After removal of Fuse, remove five screws marked "△" and ten hooks(B) as shown in Figures 3 and 4. The Rear Chassis can be removed.

(5) After removal of Rear Chassis, remove the solder(b) as shown in Figure 3. The Power P.C.Board Can be removed.

(6) After the above procedures are completed, Main P.C.Board can be removed.

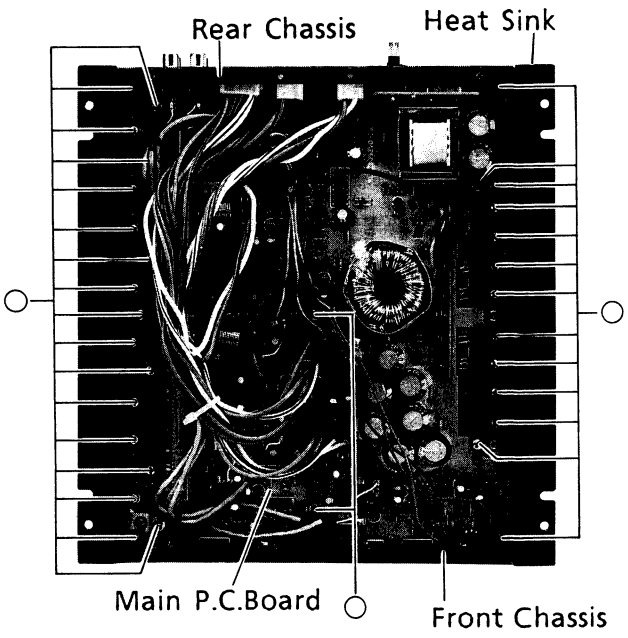


Figure 1

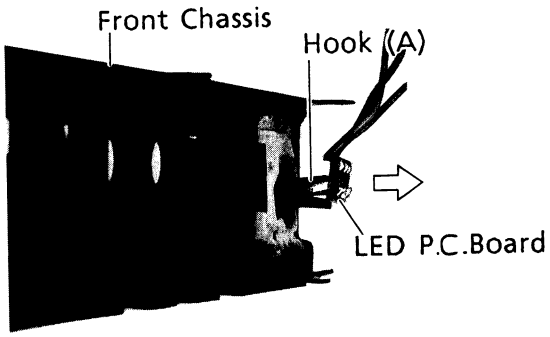


Figure 2

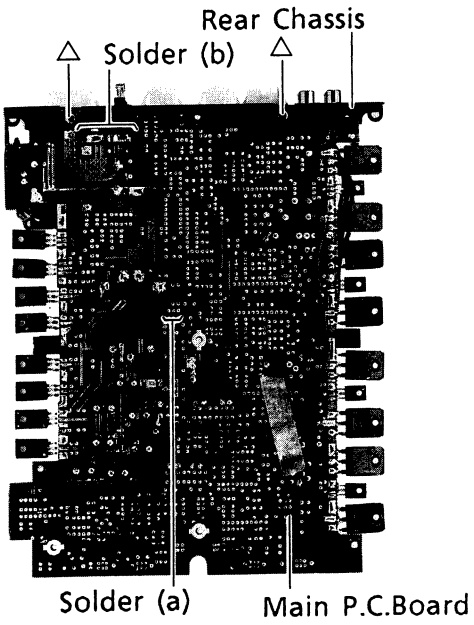


Figure 3

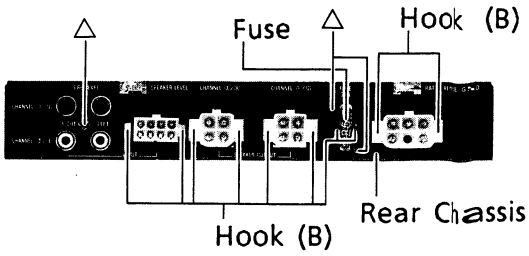
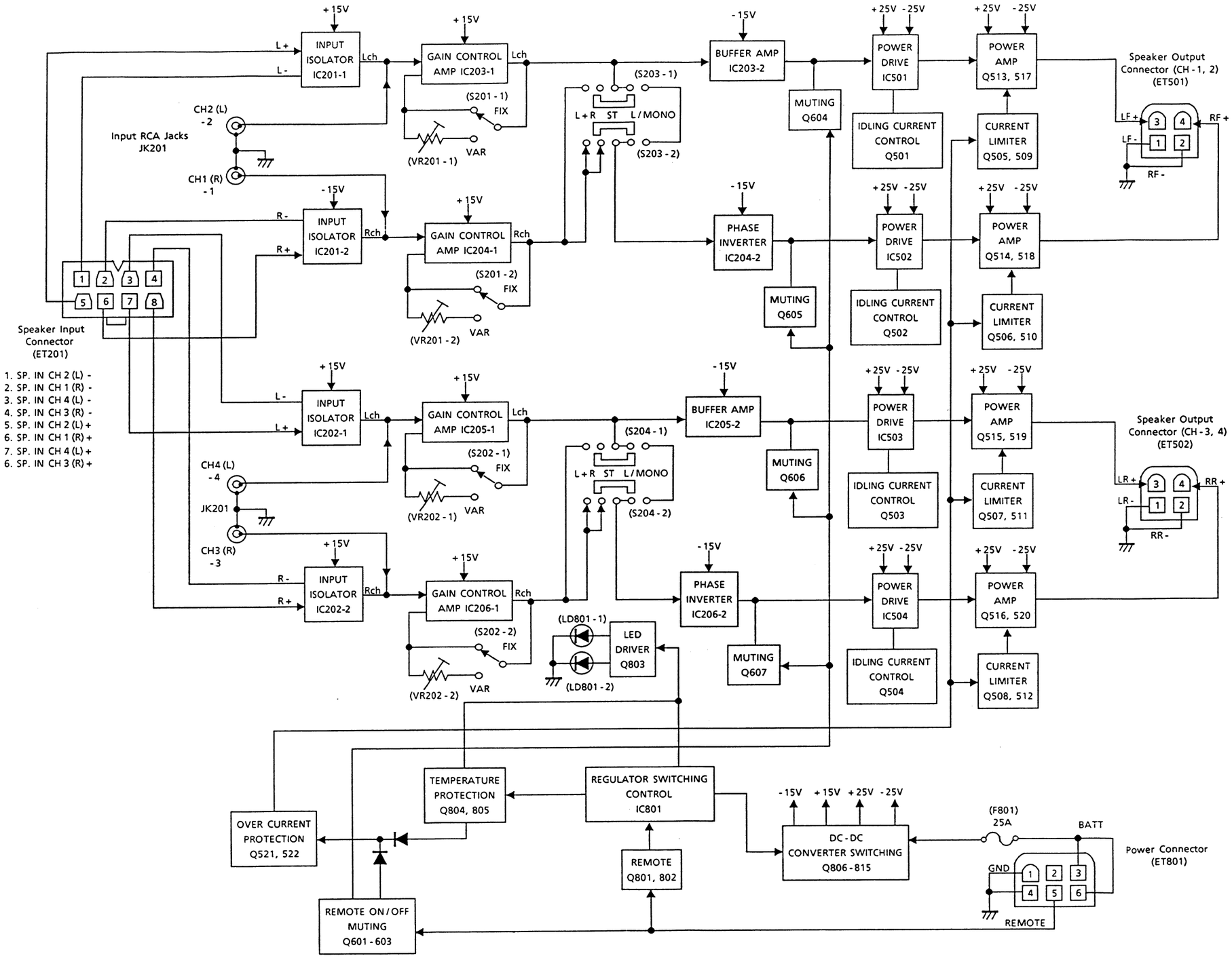
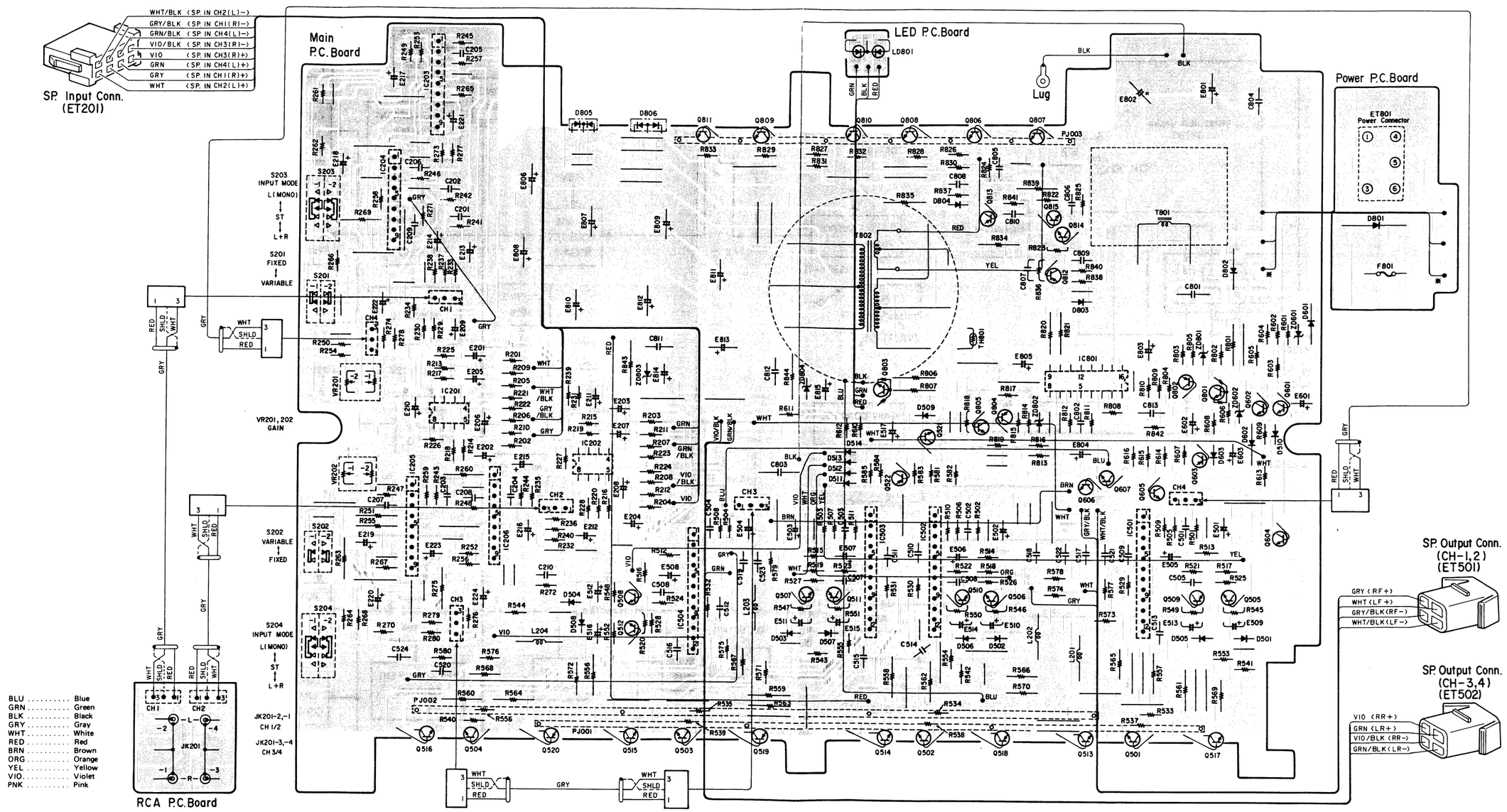


Figure 4

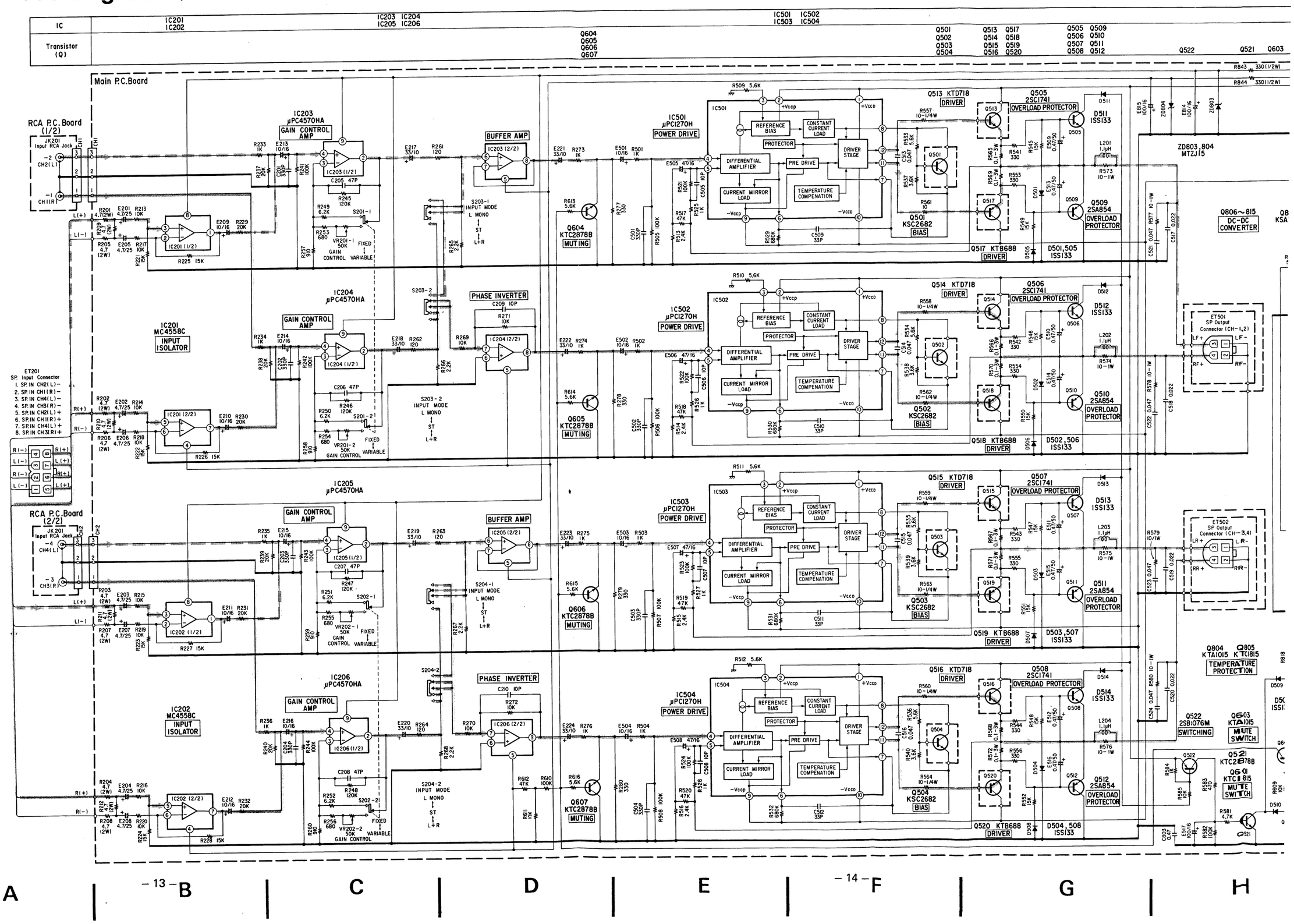
Block Diagram



Parts Layout on P.C.Boards and Wiring Diagram

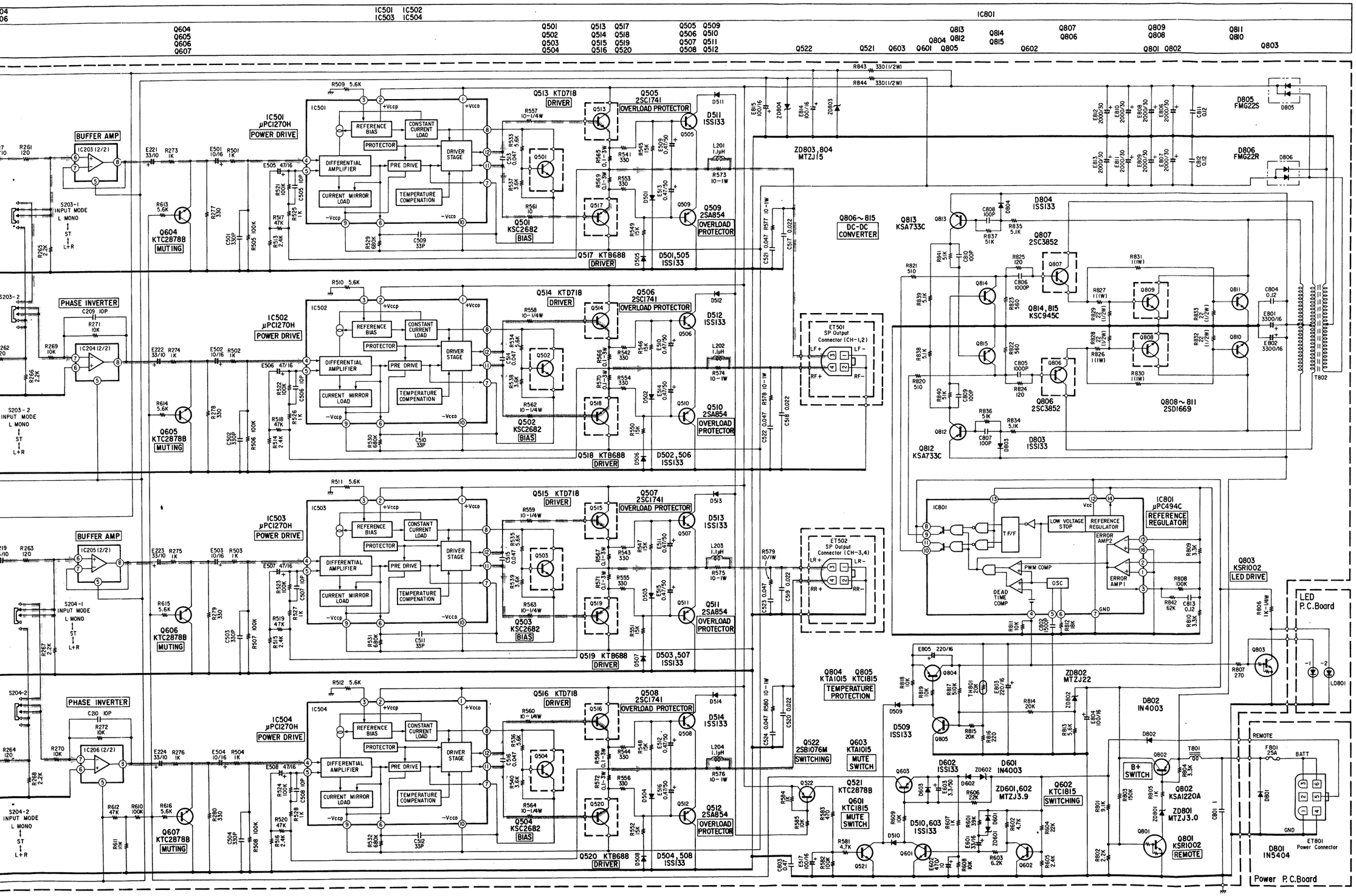


Schematic Diagram (Refer to reverse side for IC's and Transistors voltage values.)



tors voltage values.)

NOTE:
1. All resistance values are in ohms. K= 1,000 M= 1,000,000
2. All capacitance values are in microfarads. P= 1/1,000,000



IC's and Transistors Voltage Values

IC201, 202

Pin No.	Voltage
1	0V
2	0V
3	0V
4	–14.3V
5	0V
6	0V
7	0V
8	14.3V

IC203~206

Pin No.	Voltage
1	14.3V
2	0V
3	0V
4	0V
5	–14.3V
6	0V
7	0V
8	0V
9	14.3V

IC501~504

Pin No.	Voltage
1	24.8V
2	24.8V
3	18.7V
4	0.38V
5	0.38V
6	–23.1V
7	–1.1V
8	0.6V
9	–24.8V
10	–24.8V
11	–0.56
12	0.6V

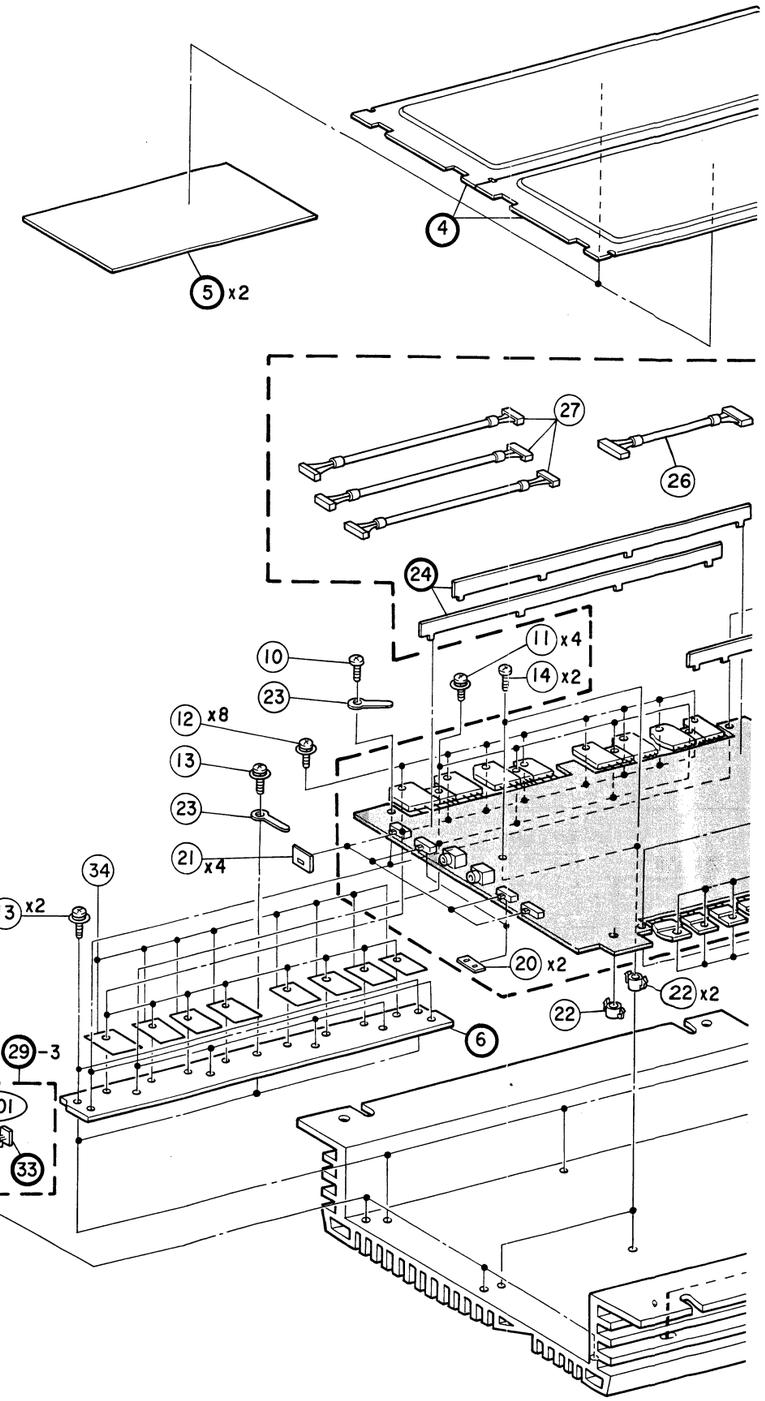
IC801

Pin No.	Voltage
1	0V
2	2.5V
3	0.1V
4	0V
5	1.7V
6	3.7V
7	0V
8	14.35V
9	6.1V
10	6.1V
11	14.35V
12	14.35V
13	5V
14	5V
15	5V
16	0V

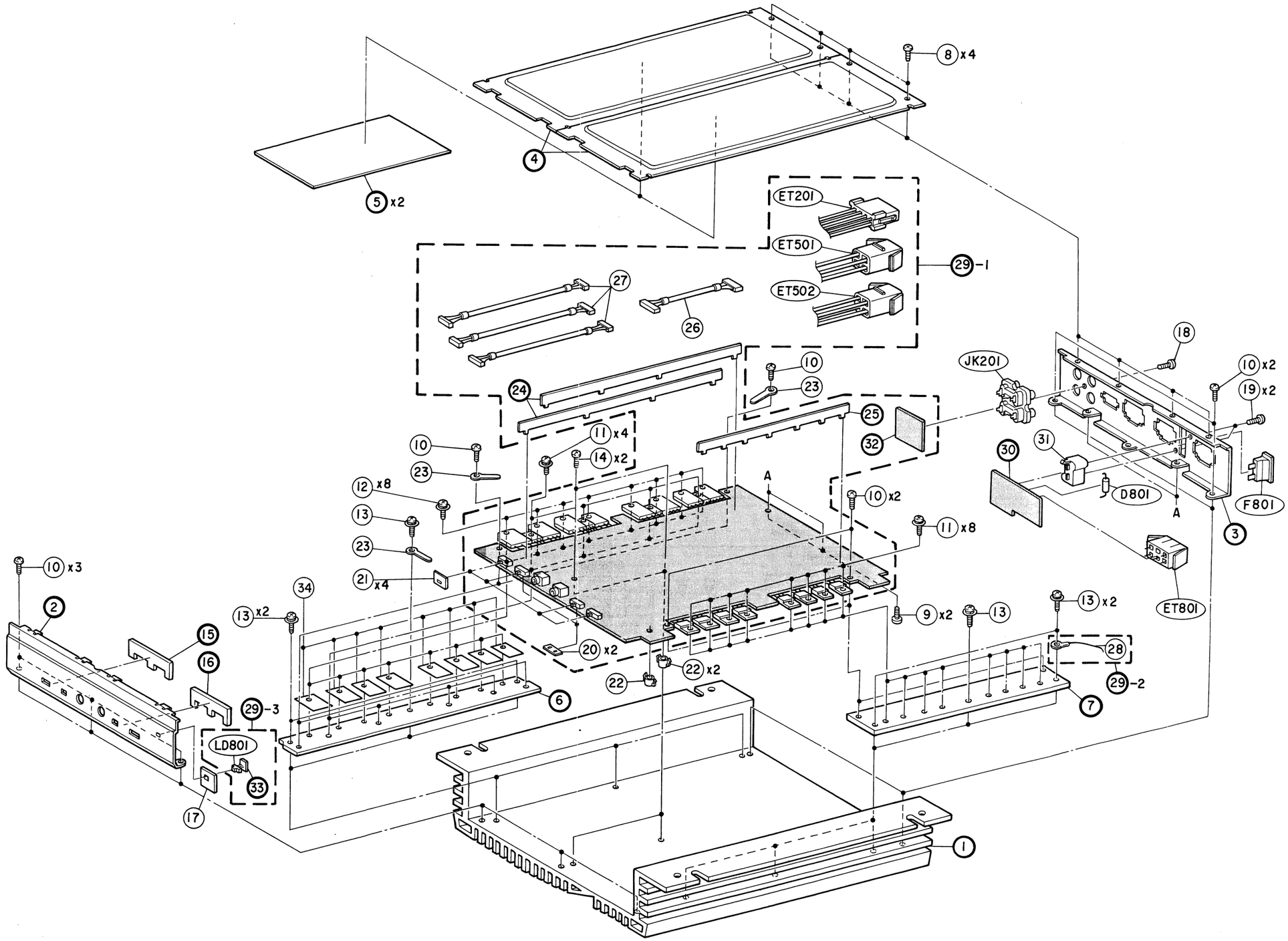
Ref. No.	B	C	E
Q501	–0.43V	0.6V	–1.1V
Q502	–0.43V	0.6V	–1.1V
Q503	–0.43V	0.6V	–1.1V
Q504	–0.43V	0.6V	–1.1V
Q505	0V	24.4V	0V
Q506	0V	24.4V	0V
Q507	0V	24.4V	0V
Q508	0V	24.4V	0V
Q509	0V	0V	0V
Q510	0V	0V	0V
Q511	0V	0V	0V
Q512	0V	0V	0V
Q513	0.59V	24.8V	0V
Q514	0.59V	24.8V	0V
Q515	0.59V	24.8V	0V
Q516	0.59V	24.8V	0V
Q517	–0.57V	–24.8V	0V
Q518	–0.57V	–24.8V	0V
Q519	–0.57V	–24.8V	0V
Q520	–0.57V	–24.8V	0V
Q521	0V	10.35V	0V
Q522	0V	1.6V	24.8V
Q601	0V	10.6V	0V
Q602	0.69V	0V	0V
Q603	10.6V	1.6V	10.1V
Q604	0V	0V	0V
Q605	0V	0V	0V
Q606	0V	0V	0V
Q607	0V	0V	0V
Q801	2.5V	0V	0V
Q802	13.65V	14.35V	14.37V
Q803	0V	2.1V	0V
Q804	5V	0V	5V
Q805	0V	5V	0V
Q806	0.83V	14.37V	0.63V
Q807	0.83V	14.37V	0.63V
Q808	0.38V	14.38V	0V
Q809	0.38V	14.38V	0V
Q810	0.38V	14.38V	0V
Q811	0.38V	14.38V	0V
Q812	14.37V	7.2V	14.38V
Q813	14.37V	7.2V	14.38V
Q814	7.2V	1V	0V
Q815	7.2V	1V	0V

NOTE:
Voltage Measuring Conditions
- Power Supply Voltage : DC 14.4V
- Measuring Meter : Multi Meter
- Measuring Point Reference : Between Ground
- Measuring Condition : No Signal Input

Exploded View (Cabinet)



Exploded View (Cabinet)



A | B | C | D | E | F | G | H

Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description		
8	1-F	03E06792S01	Screw, MCH-TPT (M2.6×5)		
9	4-F	03E06247S01	Screw, MCH-TPT (M2.6×5)		
10	4-A	03E08338S01	Screw, Tapping TPT (M3×6)		
11	3-D	03E08338S02	Screw, Tapping TPT (M3×9)		
12	3-C	03E08338S03	Screw, Tapping TPT (M3×10)		
13	4-B	03E08338S04	Screw, Tapping TPT (M3×11)		
14	3-D	03E08339S01	Screw, Tapping TPT (M3×12)		
17	5-B	07E08343S01	LED, Holder		
18	3-G	03E08340S01	Screw, Tapping TPT (M3×8)		
19	3-G	03E08338S05	Screw, Tapping TPT (M2×6)		
20	4-D	14E08435S01	Insulator, SW		
21	4-C	15E08442S01	Plate, SW		
22	4-D	07E08443S01	P.C.B., Support		
23	3-C	29E08444S01	Lug, Pin		
26	2-E	01E08439S01	Assy., Shield Conn. (3P)		
27	2-D	01E08440S01	Assy., Shield Conn. (3P)		
28	4-G	01E08441S01	Lug, Wire (BLK)		
31	3-F	09T70751F01	Auto, Fuse Holder		
34	4-C	14E08436S01	Insulator Mica		

NOTE: The parts without part numbers are not supplied.

Electrical Parts List

Resistor: Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
μF = microfarads, pF = picofarads.

Symbol No.	Part No.	Description		
		Abbreviations		
		RES. = Resistor	CAP. = Capacitor	
		C.F. = Carbon Film	ELY. = Electrolytic	
		M.F. = Metal Film	CER. = Ceramic	
		M.O. = Metal Oxide Film	MYL. = Mylar	
		M.P. = Metal Plate	TAN. = Tantalum	
		TR. = Transistor	POLY. = Polystyrol	
		TRANS. = Transformer	PP. = Polypropylene	
		CP. = Chip	PLT. = Polyethylene	
		MAIN P.C.Board		
		IC's		
IC201	51E05042S01	MC4558C		
IC202	51E05042S01	MC4558C		
IC203	51T83403F03	μPC4570HA		
IC204	51T83403F03	μPC4570HA		
IC205	51T83403F03	μPC4570HA		
IC206	51T83403F03	μPC4570HA		
IC501	51E06446S01	μPC1270H		
IC502	51E06446S01	μPC1270H		
IC503	51E06446S01	μPC1270H		
IC504	51E06446S01	μPC1270H		
IC801	51T70759F01	μPC494C		
		Transistors		
Q501	48E08329S01	KSC2682		
Q502	48E08329S01	KSC2682		
Q503	48E08329S01	KSC2682		
Q504	48E08329S01	KSC2682		
Q505	48T73683F01	2SC1741		
Q506	48T73683F01	2SC1741		
Q507	48T73683F01	2SC1741		
Q508	48T73683F01	2SC1741		
Q509	48T73682F01	2SA854		
Q510	48T73682F01	2SA854		
Q511	48T73682F01	2SA854		
Q512	48T73682F01	2SA854		
Q513	48E06440S01	KTD718		
Q514	48E06440S01	KTD718		
Q515	48E06440S01	KTD718		
Q516	48E06440S01	KTD718		
Q517	48E06435S01	KTB688		
Q518	48E06435S01	KTB688		
Q519	48E06435S01	KTB688		
Q520	48E06435S01	KTB688		
Q521	48E08335S01	KTC2787B		
Q522	48T81069F01	2SB1076M		
Q601	48E08334S02	KTC1815		
Q602	48E08334S02	KTC1815		
Q603	48E08333S01	KTA1015		
Q604	48E08335S01	KTC2787B		

Symbol No.	Part No.	Description		
Q605	48E08335S01	KTC2787B		
Q606	48E08335S01	KTC2787B		
Q607	48E08335S01	KTC2787B		
Q801	48E06436S02	KSR1002		
Q802	48E06434S01	KSA1220A		
Q803	48E06436S02	KSR1002		
Q804	48E08333S01	KTA1015		
Q805	48E08334S01	KTC1815		
Q806	48T82883F01	2SC3852		
Q807	48T82883F01	2SC3852		
Q808	48E06439S02	2SD1669		
Q809	48E06439S02	2SD1669		
Q810	48E06439S02	2SD1669		
Q811	48E06439S02	2SD1669		
Q812	48E05942S02	KSA733C		
Q813	48E05942S02	KSA733C		
Q814	48E05944S02	KSC945C		
Q815	48E05944S02	KSC945C		
		Diodes		
D501	48T68828F01	1SS133		
D502	48T68828F01	1SS133		
D503	48T68828F01	1SS133		
D504	48T68828F01	1SS133		
D505	48T68828F01	1SS133		
D506	48T68828F01	1SS133		
D507	48T68828F01	1SS133		
D508	48T68828F01	1SS133		
D509	48T68828F01	1SS133		
D510	48T68828F01	1SS133		
D511	48T68828F01	1SS133		
D512	48T68828F01	1SS133		
D513	48T68828F01	1SS133		
D514	48T68828F01	1SS133		
D601	48S40477U01	1N4003		
D602	48T68828F01	1SS133		
D603	48T68828F01	1SS133		
D801	48E06812S01	1N5404		
D802	48S40477U01	1N4003		
D803	48T68828F01	1SS133		
D804	48T68828F01	1SS133		
D805	48T80987F01	FMG22S		
D806	48T80987F02	FMG22R		
ZD601	48E08330S02	Zener, MTZJ3.9		
ZD602	48E08330S02	Zener, MTZJ3.9		
ZD801	48E08330S01	Zener, MTZJ3.0		
ZD802	48E08332S01	Zener, MTZJ22		
ZD803	48E08331S01	Zener, MTZJ15		
ZD804	48E08331S01	Zener, MTZJ15		

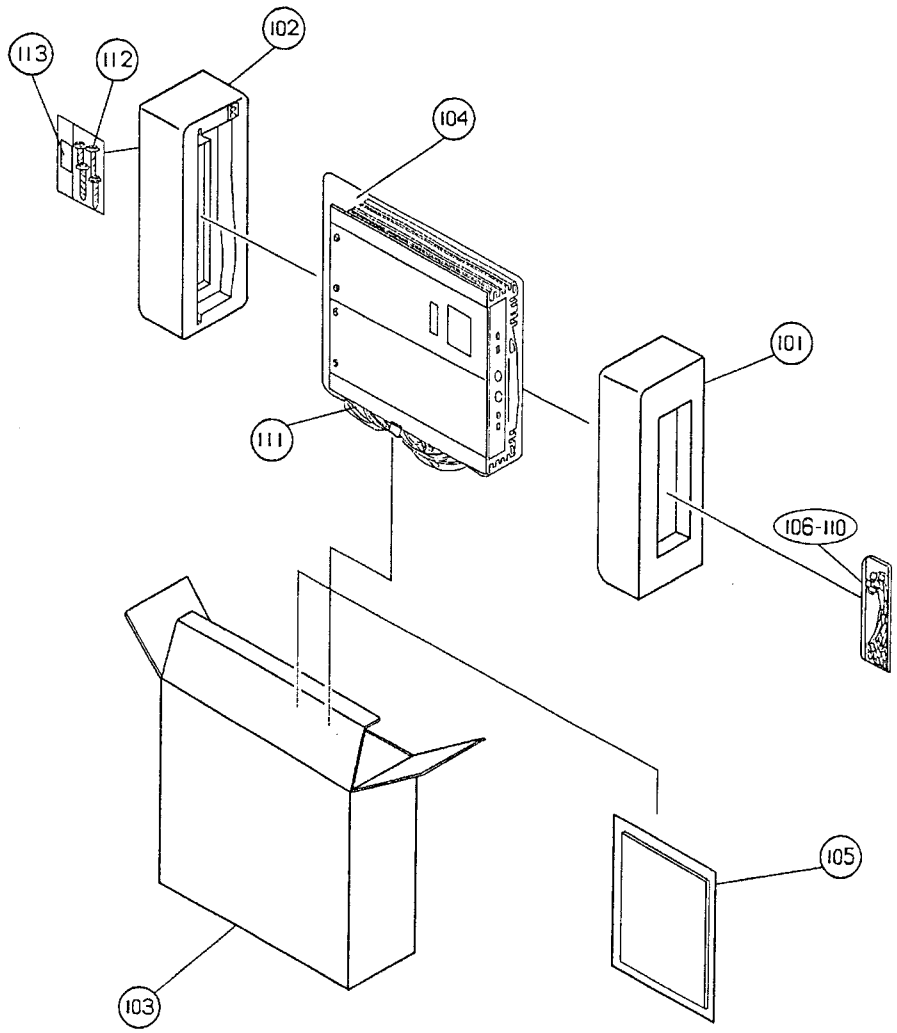
Symbol No.	Part No.	Description		
Capacitors				
C201	21E06808S02	CER., 330pF		
E201	23T16233W30	ELY., 4.7μF/25V		
C202	21E06808S02	CER., 330pF		
E202	23T16233W30	ELY., 4.7μF/25V		
C203	21E06808S02	CER., 330pF		
E203	23T16233W30	ELY., 4.7μF/25V		
C204	21E06808S02	CER., 330pF		
E204	23T16233W30	ELY., 4.7μF/25V		
C205	21E06806S01	CER., 47pF		
E205	23T16233W30	ELY., 4.7μF/25V		
C206	21E06806S01	CER., 47pF		
E206	23T16233W30	ELY., 4.7μF/25V		
C207	21E06806S01	CER., 47pF		
E207	23T16233W30	ELY., 4.7μF/25V		
C208	21E06806S01	CER., 47pF		
E208	23T16233W30	ELY., 4.7μF/25V		
C209	21E06804S01	CER., 10pF		
E209	23T16233W20	ELY., 10μF/16V		
C210	21E06804S01	CER., 10pF		
E210	23T16233W20	ELY., 10μF/16V		
E211	23T16233W20	ELY., 10μF/16V		
E212	23T16233W20	ELY., 10μF/16V		
E213	23T16233W20	ELY., 10μF/16V		
E214	23T16233W20	ELY., 10μF/16V		
E215	23T16233W20	ELY., 10μF/16V		
E216	23T16233W20	ELY., 10μF/16V		
E217	23T16233W11	ELY., 33μF/10V		
E218	23T16233W11	ELY., 33μF/10V		
E219	23T16233W11	ELY., 33μF/10V		
E220	23T16233W11	ELY., 33μF/10V		
E221	23T16233W11	ELY., 33μF/10V		
E222	23T16233W11	ELY., 33μF/10V		
E223	23T16233W11	ELY., 33μF/10V		
E224	23T16233W11	ELY., 33μF/10V		
C501	21E06808S02	CER., 330pF		
E501	23T16233W20	ELY., 10μF/16V		
C502	21E06808S02	CER., 330pF		
E502	23T16233W20	ELY., 10μF/16V		
C503	21E06808S02	CER., 330pF		
E503	23T16233W20	ELY., 10μF/16V		
C504	21E06808S02	CER., 330pF		
E504	23T16233W20	ELY., 10μF/16V		
C505	21E06804S01	CER., 10pF		
E505	23T16233W23	ELY., 47μF/16V		
C506	21E06804S01	CER., 10pF		
E506	23T16233W23	ELY., 47μF/16V		
C507	21E06804S01	CER., 10pF		
E507	23T16233W23	ELY., 47μF/16V		
C508	21E06804S01	CER., 10pF		
E508	23T16233W23	ELY., 47μF/16V		
C509	21E06806S02	CER., 33pF		
E509	23T16233W53	ELY., 0.47μF/50V		
C510	21E06806S02	CER., 33pF		

Symbol No.	Part No.	Description		
E510	23T16233W53	ELY., 0.47μF/50V		
C511	21E06806S02	CER., 33pF		
E511	23T16233W53	ELY., 0.47μF/50V		
C512	21E06806S02	CER., 33pF		
E512	23T16233W53	ELY., 0.47μF/50V		
C513	08E08327S02	MYL., 0.047μF		
E513	23T16233W53	ELY., 0.47μF/50V		
C514	08E08327S02	MYL., 0.047μF		
E514	23T16233W53	ELY., 0.47μF/50V		
C515	08E08327S02	MYL., 0.047μF		
E515	23T16233W53	ELY., 0.47μF/50V		
C516	08E08327S02	MYL., 0.047μF		
E516	23T16233W53	ELY., 0.47μF/50V		
C517	08E08327S01	MYL., 0.022μF		
E517	23T16233W24	ELY., 100μF/16V		
C518	08E08327S01	MYL., 0.022μF		
C519	08E08327S01	MYL., 0.022μF		
C520	08E08327S01	MYL., 0.022μF		
C521	08E08327S02	MYL., 0.047μF		
C522	08E08327S02	MYL., 0.047μF		
C523	08E08327S02	MYL., 0.047μF		
C524	08E08327S02	MYL., 0.047μF		
E601	23T16233W22	ELY., 33μF/16V		
E602	23T16233W16	ELY., 470μF/10V		
E603	23T16233W56	ELY., 3.3μF/50V		
C801	08T50579F25	T.F., 1μF		
E801	23T90197F31	ELY., 3300μF/16V		
C802	08E06005S01	MYL., 1500pF		
E802	23T90197F31	ELY., 3300μF/16V		
C803	08E08328S02	MYL., 0.47μF		
E803	23T16233W21	ELY., 220μF/16V		
C804	08E08328S01	MYL., 0.12μF		
E804	23T16233W24	ELY., 100μF/16V		
C805	21E06808S03	CER., 1000pF		
E805	23T16233W21	ELY., 220μF/16V		
C806	21E06808S03	CER., 1000pF		
E806	23T90197F62	ELY., 2000μF/30V		
C807	21E06807S01	CER., 100pF		
E807	23T90197F62	ELY., 2000μF/30V		
C808	21E06807S01	CER., 100pF		
E808	23T90197F62	ELY., 2000μF/30V		
C809	21E06807S01	CER., 100pF		
E809	23T90197F62	ELY., 2000μF/30V		
C810	21E06807S01	CER., 100pF		
E810	23T90197F62	ELY., 2000μF/30V		
C811	08E08328S01	MYL., 0.12μF		
E811	23T90197F62	ELY., 2000μF/30V		
C812	08E08328S01	MYL., 0.12μF		
E812	23T90197F62	ELY., 2000μF/30V		
C813	08E08328S01	MYL., 0.12μF		
E813	23T90197F62	ELY., 2000μF/30V		
E814	23T16233W24	ELY., 100μF/16V		
E815	23T16233W24	ELY., 100μF/16V		

Symbol No.	Part No.	Description
Transformers		
T801	25E08337S01	Choke
T802	25E08336S01	Power
Coils		
L201	24E06423S01	Spring, 1.1µH
L202	24E06423S01	Spring, 1.1µH
L203	24E06423S01	Spring, 1.1µH
L204	24E06423S01	Spring, 1.1µH
Resistors		
R201	06E08325S01	M.O., 4.7 ohm 2W
R202	06E08325S01	M.O., 4.7 ohm 2W
R203	06E08325S01	M.O., 4.7 ohm 2W
R204	06E08325S01	M.O., 4.7 ohm 2W
R205	06E08325S01	M.O., 4.7 ohm 2W
R206	06E08325S01	M.O., 4.7 ohm 2W
R207	06E08325S01	M.O., 4.7 ohm 2W
R208	06E08325S01	M.O., 4.7 ohm 2W
R209	06E08325S01	M.O., 4.7 ohm 2W
R210	06E08325S01	M.O., 4.7 ohm 2W
R211	06E08325S01	M.O., 4.7 ohm 2W
R212	06E08325S01	M.O., 4.7 ohm 2W
R565	06E06810S01	Cement, 0.1 ohm 3W
R566	06E06810S01	Cement, 0.1 ohm 3W
R567	06E06810S01	Cement, 0.1 ohm 3W
R568	06E06810S01	Cement, 0.1 ohm 3W
R569	06E06810S01	Cement, 0.1 ohm 3W
R570	06E06810S01	Cement, 0.1 ohm 3W
R571	06E06810S01	Cement, 0.1 ohm 3W
R572	06E06810S01	Cement, 0.1 ohm 3W
R573	06E08324S01	M.O., 10 ohm 1W
R574	06E08324S01	M.O., 10 ohm 1W
R575	06E08324S01	M.O., 10 ohm 1W
R576	06E08324S01	M.O., 10 ohm 1W
R577	06E08324S01	M.O., 10 ohm 1W
R578	06E08324S01	M.O., 10 ohm 1W
R579	06E08324S01	M.O., 10 ohm 1W
R580	06E08324S01	M.O., 10 ohm 1W
R826	06E08323S01	M.O., 1 ohm 1W
R827	06E08323S01	M.O., 1 ohm 1W
R828	06E08321S01	M.O., 22 ohm 1/2W
R829	06E08321S01	M.O., 22 ohm 1/2W
R830	06E08323S01	M.O., 1 ohm 1W
R831	06E08323S01	M.O., 1 ohm 1W
R832	06E08321S01	M.O., 22 ohm 1/2W
R833	06E08321S01	M.O., 22 ohm 1/2W
R843	06E08322S01	M.O., 330 ohm 1/2W
R844	06E08322S01	M.O., 330 ohm 1/2W

Symbol No.	Part No.	Description
Thermistor		
TH801	48E06441S01	20K ohm
Volume		
VR201	18T16289W01	Rotary, 50K ohm
Switches		
S201	40T68063F02	SSJ-322A (FIX/VAR SW)
S202	40T68063F02	SSJ-322A (FIX/VAR SW)
S203	40T84765F01	SSJ-323 (INPUT MODE SW)
S204	40T84765F01	SSJ-323 (INPUT MODE SW)
Miscellaneous		
JK201	09E08344S01	Input, RCA Jacks
ET201	01E08438S01	SP., Input Conn.
ET501	01E08319S01	SP., Output Conn. (CH-1, 2)
ET502	01E08320S01	SP., Output Conn. (CH-3, 4)
ET801	01E08326S01	Power Connector
F801	65S58596F07	Fuse 25A
D801	48E06812S01	Diode, IN5404
LD801	48T25947W01	LED, SPB-221 (GRN/ORG)

Packing Method View



Packing Assembly Parts List

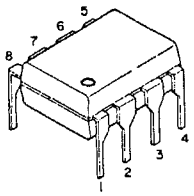
Symbol No.	Part No.	Description		
101	56E08309S01	Tray, Packing (L)		
102	56E08309S02	Tray, Packing (R)		
103	56E08310S01	Carton, Packing (IND)		
○ 103	56S22119W36	Carton, Packing (IND)		
△ 104	56E08311S01	Sack, Polyethylene (SET)		
○ 105	68P21870W13	Owner's., Manual		
△ 105	68P22001W09	Owner's., Manual		
106	01E08313S01	Assy., Kit S.T, Output Wire (Front)		
107	01E08314S01	Assy., Kit B.T.L Output Wire (Left)		

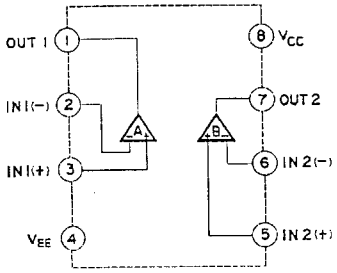
Symbol No.	Part No.	Description		
108	01E08315S01	Assy., Kit S.T, Output Wire (Rear)		
109	01E08316S01	Assy., Kit B.T.L Output Wire (Right)		
110	01E08318S01	Assy., Kit SP-Input Wire		
111	01E08317S01	Assy., Kit Power Wire		
112	03E06399S01	Screw, Tapping-1 BLK (M4×14)		
113	65S58596F07	Fuse, 25A		

NOTE: ○: For North American Model Only
△: For General Foreign Model Only
Others Common

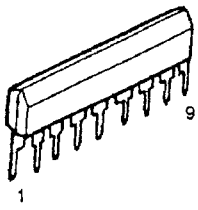
Semi-Conductors Lead Identifications

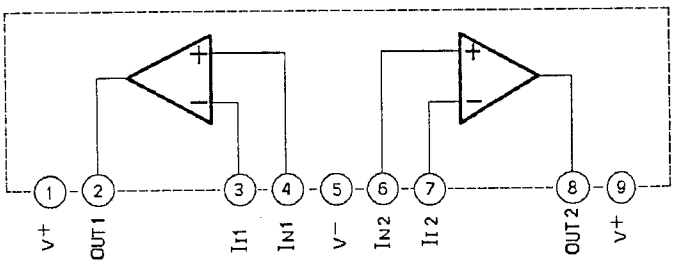
MC4558C : IC201, 202



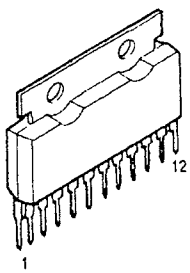


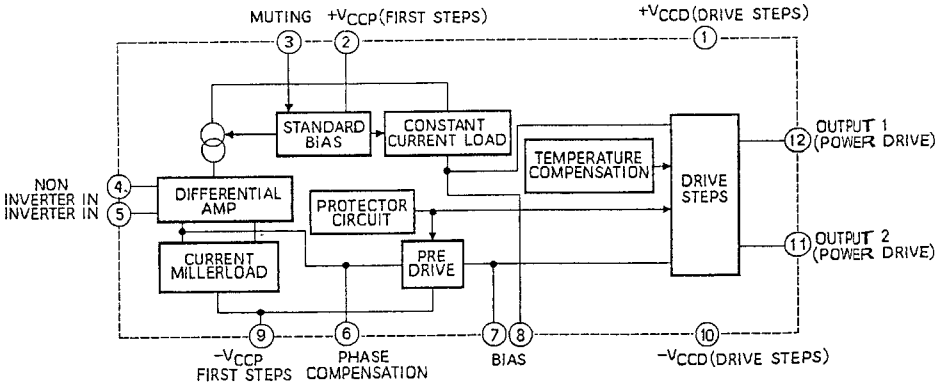
μPC4570HA : IC203~206





μPC1270H : IC501~504





Schematic Diagram (Refer to reverse side for IC's and Transistors voltage values.)

IC	IC201 IC202	IC203 IC204 IC205 IC206	IC501 IC502 IC503 IC504
Transistor (Q)		Q604 Q605 Q606 Q607	Q501 Q502 Q503 Q504 / Q513 Q517 Q514 Q518 Q515 Q519 Q516 Q520 / Q505 Q509 Q506 Q510 Q507 Q511 Q508 Q512 / Q522 / Q521 Q603 Q601 / Q80

Main P.C.Board

RCA P.C.Board (1/2)

JK201 Input RCA Jack

RCA P.C.Board (2/2)

JK 201 Input RCA Jack

ET201 SP. Input Connector
1. SP.IN CH2(L)−
2. SP.IN CH1(R)−
3. SP.IN CH4(L)−
4. SP.IN CH3(R)−
5. SP.IN CH2(L)+
6. SP.IN CH1(R)+
7. SP.IN CH4(L)+
8. SP.IN CH3(R)+

IC201 MC4558C INPUT ISOLATOR

IC202 MC4558C INPUT ISOLATOR

IC203 μPC4570HA GAIN CONTROL AMP

IC204 μPC4570HA GAIN CONTROL AMP

IC205 μPC4570HA GAIN CONTROL AMP

IC206 μPC4570HA GAIN CONTROL AMP

BUFFER AMP

PHASE INVERTER

S201-1 / S201-2 GAIN CONTROL VARIABLE

S202-1 / S202-2 GAIN CONTROL VARIABLE

S203-1 / S203-2 INPUT MODE L MONO ↕ ST ↕ L+R

S204-1 / S204-2 INPUT MODE L MONO ↕ ST ↕ L+R

IC501 μPC1270H POWER DRIVE

IC502 μPC1270H POWER DRIVE

IC503 μPC1270H POWER DRIVE

IC504 μPC1270H POWER DRIVE

REFERENCE BIAS · CONSTANT CURRENT LOAD · PROTECTOR · DIFFERENTIAL AMPLIFIER · PRE DRIVE · DRIVER STAGE · CURRENT MIRROR LOAD · TEMPERATURE COMPENSATION

Q604 KTC2878B MUTING

Q605 KTC2878B MUTING

Q606 KTC2878B MUTING

Q607 KTC2878B MUTING

Q501 KSC2682 BIAS

Q502 KSC2682 BIAS

Q503 KSC2682 BIAS

Q504 KSC2682 BIAS

Q513 KTD718 DRIVER

Q514 KTD718 DRIVER

Q515 KTD718 DRIVER

Q516 KTD718 DRIVER

Q517 KTB688 DRIVER

Q518 KTB688 DRIVER

Q519 KTB688 DRIVER

Q520 KTB688 DRIVER

Q505 2SC1741 OVERLOAD PROTECTOR

Q506 2SC1741 OVERLOAD PROTECTOR

Q507 2SC1741 OVERLOAD PROTECTOR

Q508 2SC1741 OVERLOAD PROTECTOR

Q509 2SA854 OVERLOAD PROTECTOR

Q510 2SA854 OVERLOAD PROTECTOR

Q511 2SA854 OVERLOAD PROTECTOR

Q512 2SA854 OVERLOAD PROTECTOR

D501,505 ISS133

D502,506 ISS133

D503,507 ISS133

D504,508 ISS133

D509 ISS133

D510,60 ISS133

D511 ISS133

D512 ISS133

D513 ISS133

D514 ISS133

ZD803,804 MTZJ15

Q806~815 DC-DC CONVERTER

Q804 Q805 KTA1015 KTC1815 TEMPERATURE PROTECTION

Q522 2SB1076M SWITCHING

Q603 KTA1015 MUTE SWITCH

Q521 KTC28788 / Q601 KTC1815 MUTE SWITCH

ET501 SP Output Connector (CH-1,2)

ET502 SP Output Connector (CH-3,4)

Q813 KSA733C

Q812 KSA733

1 2 3 4 5

A B C D E F G H

tage values.)

NOTE:
1. All resistance values are in ohms. K= 1,000 M= 1,000,000
2. All capacitance values are in microfarads. P= 1/1,000,000

IC501 IC502 IC503 IC504

Q604 Q605 Q606 Q607

Q501 Q502 Q503 Q504

Q513 Q517 Q514 Q518 Q515 Q519 Q516 Q520

Q505 Q509 Q506 Q510 Q507 Q511 Q508 Q512

Q522

Q521

Q603

Q601 Q804

Q813 Q812 Q805

Q814 Q815

Q602

Q807 Q806

Q801 Q802

Q809 Q808

Q811 Q810

Q803

IC801

BUFFER AMP

IC203 (2/2)

S203-1 INPUT MODE L MONO ST L+R

PHASE INVERTER

C209 10P

R271 10K

IC204 (2/2)

IC501 μPC1270H POWER DRIVE

IC502 μPC1270H POWER DRIVE

IC503 μPC1270H POWER DRIVE

IC504 μPC1270H POWER DRIVE

REFERENCE BIAS

CONSTANT CURRENT LOAD

PROTECTOR

DIFFERENTIAL AMPLIFIER

PRE DRIVE

DRIVER STAGE

CURRENT MIRROR LOAD

TEMPERATURE COMPENSATION

+Vccp

-Vccp

Q604 KTC2878B MUTING

Q605 KTC2878B MUTING

Q606 KTC2878B MUTING

Q607 KTC2878B MUTING

Q513 KTD718 DRIVER

Q514 KTD718 DRIVER

Q515 KTD718 DRIVER

Q516 KTD718 DRIVER

Q517 KTB688 DRIVER

Q518 KTB688 DRIVER

Q519 KTB688 DRIVER

Q520 KTB688 DRIVER

Q501 KSC2682 BIAS

Q502 KSC2682 BIAS

Q503 KSC2682 BIAS

Q504 KSC2682 BIAS

Q505 2SC1741 OVERLOAD PROTECTOR

Q506 2SC1741 OVERLOAD PROTECTOR

Q507 2SC1741 OVERLOAD PROTECTOR

Q508 2SC1741 OVERLOAD PROTECTOR

Q509 2SA854 OVERLOAD PROTECTOR

Q510 2SA854 OVERLOAD PROTECTOR

Q511 2SA854 OVERLOAD PROTECTOR

Q512 2SA854 OVERLOAD PROTECTOR

D501,505 ISS133

D502,506 ISS133

D503,507 ISS133

D504,508 ISS133

D511 ISS133

D512 ISS133

D513 ISS133

D514 ISS133

ZD803,804 MTZJ15

Q806~815 DC-DC CONVERTER

Q813 KSA733C

Q812 KSA733C

D804 ISS133

D803 ISS133

Q807 2SC3852

Q806 2SC3852

Q814,815 KSC945C

Q808~811 2SD1669

D805 FMG22S

D806 FMG22R

T802

ET501 SP Output Connector (CH-1,2)

ET502 SP Output Connector (CH-3,4)

Q804 Q805 KTA1015 KTC1815 TEMPERATURE PROTECTION

Q522 2SB1076M SWITCHING

Q603 KTA1015 MUTE SWITCH

Q521 KTC2878B

Q601 KTC1815 MUTE SWITCH

D510,603 ISS133

D602 ISS133

D601 IN4003

ZD602 MTZJ22

ZD601,602 MTZJ3.9

Q602 KTC1815 SWITCHING

IC801 μPC494C REFERENCE REGULATOR

LOW VOLTAGE STOP

REFERENCE REGULATOR

T/F/F

ERROR AMP2

ERROR AMP1

PWM COMP

OSC

DEAD TIME COMP

Vcc

GND

Q803 KSR1002 LED DRIVE

LED P.C.Board

LD801

D802 IN4003

B+ SWITCH

Q802 KSA1220A

ZD801 MTZJ3.0

Q801 KSR1002 REMOTE

REMOTE

F801 2.5A

BATT

D801 IN5404

ET801 Power Connector

Power P.C.Board

D E F G H I J K

IC's and Transistors Voltage Values

IC201, 202

Pin No.	Voltage
1	0V
2	0V
3	0V
4	–14.3V
5	0V
6	0V
7	0V
8	14.3V

IC203~206

Pin No.	Voltage
1	14.3V
2	0V
3	0V
4	0V
5	–14.3V
6	0V
7	0V
8	0V
9	14.3V

IC501~504

Pin No.	Voltage
1	24.8V
2	24.8V
3	18.7V
4	0.38V
5	0.38V
6	–23.1V
7	–1.1V
8	0.6V
9	–24.8V
10	–24.8V
11	–0.56
12	0.6V

IC801

Pin No.	Voltage
1	0V
2	2.5V
3	0.1V
4	0V
5	1.7V
6	3.7V
7	0V
8	14.35V
9	6.1V
10	6.1V
11	14.35V
12	14.35V
13	5V
14	5V
15	5V
16	0V

Ref. No.	B	C	E
Q501	–0.43V	0.6V	–1.1V
Q502	–0.43V	0.6V	–1.1V
Q503	–0.43V	0.6V	–1.1V
Q504	–0.43V	0.6V	–1.1V
Q505	0V	24.4V	0V
Q506	0V	24.4V	0V
Q507	0V	24.4V	0V
Q508	0V	24.4V	0V
Q509	0V	0V	0V
Q510	0V	0V	0V
Q511	0V	0V	0V
Q512	0V	0V	0V
Q513	0.59V	24.8V	0V
Q514	0.59V	24.8V	0V
Q515	0.59V	24.8V	0V
Q516	0.59V	24.8V	0V
Q517	–0.57V	–24.8V	0V
Q518	–0.57V	–24.8V	0V
Q519	–0.57V	–24.8V	0V
Q520	–0.57V	–24.8V	0V
Q521	0V	10.35V	0V
Q522	0V	1.6V	24.8V
Q601	0V	10.6V	0V
Q602	0.69V	0V	0V
Q603	10.6V	1.6V	10.1V
Q604	0V	0V	0V
Q605	0V	0V	0V
Q606	0V	0V	0V
Q607	0V	0V	0V
Q801	2.5V	0V	0V
Q802	13.65V	14.35V	14.37V
Q803	0V	2.1V	0V
Q804	5V	0V	5V
Q805	0V	5V	0V
Q806	0.83V	14.37V	0.63V
Q807	0.83V	14.37V	0.63V
Q808	0.38V	14.38V	0V
Q809	0.38V	14.38V	0V
Q810	0.38V	14.38V	0V
Q811	0.38V	14.38V	0V
Q812	14.37V	7.2V	14.38V
Q813	14.37V	7.2V	14.38V
Q814	7.2V	1V	0V
Q815	7.2V	1V	0V

NOTE:
Voltage Measuring Conditions
- Power Supply Voltage : DC 14.4V
- Measuring Meter : Multi Meter
- Measuring Point Reference : Between Ground
- Measuring Condition : No Signal Input

μPC494C : IC801